

### REMARKS

#### *The Present Invention*

The present invention relates to a polybenzazole article that comprises a polybenzazole and a light-resisting agent.

#### *The Pending Claims*

Claims 1-3 and 6 are currently pending. Reconsideration of the pending claims is respectfully requested.

#### *Summary of the Office Action*

The Examiner rejects claims 1-3 and 6 under 35 U.S.C. § 103(a) as obvious in view of So et al. (U.S. Patent 5,552,221).

#### *Discussion of the Obviousness Rejection*

According to the Examiner, So et al. discloses a polybenzazole article comprising polybenzazole and a naphthol dye. The Examiner concedes that So et al. does not disclose the specific light-resisting agents recited in the pending claims. However, the Examiner alleges that one of ordinary skill in the art would have been motivated to use the claimed light-resisting agents with a reasonable expectation of success since So et al. used naphthol that absorbs light with a wavelength of 300-600 nm.

The Examiner claims that the previously submitted Rule 132 declaration was not persuasive since no comparative example with naphthol was provided. Moreover, the Examiner states that "Applicant's arguments are based on the structures of the light resisting agents, whereas the Examiner's arguments are based on the functionality of said light-resisting agents, as in the claims (the claims disclose the functionality of said light resisting agent)" (see Office Action, page 3, 2<sup>nd</sup> full paragraph). Applicants point out that the pending claims recite *both* functional (allows for a regular reflectance of the article of not more than 30% in not less than 30% of the wavelength region of from 450 nm to 700 nm) *and* structural information (e.g., aniline, *o*-phenylenediamine) for the light-resisting agent. Therefore, it is quite reasonable for applicants to have argued that So et al. does not teach or suggest the structures of the claimed light-resisting articles. In particular, So et al. discloses the use of naphthol, which has a structure that is completely different than any of the light resisting agents recited in the pending claims. Moreover, not only are the structures of the claimed light-resisting agents not obvious in view of So et al., the inventive polybenzazole article,

when used with one or more of the claimed light-resisting agents, provides surprising and unexpected results.

As shown in the accompanying Declaration under 37 C.F.R. § 1.132, the polybenzazole article comprising a specific light-resisting agent of the present invention is markedly superior in light resistance as compared to the polybenzazole article containing a dye (including naphthol) as described in So et al. More specifically, the polybenzazole articles (Samples 6 and 7) containing *o*-aminophenol/*p*-phenylenediamine (1:1) or *m*-phenylenediamine/*p*-phenylenediamine (1:1) as light-resisting agents showed a strength retention of 34% or 55%, respectively, after 24 hours of xenon light exposure. As is clear from the comparison of the strength retention (34% and 55%) of the inventive polybenzazole articles with the strength retention of the polybenzazole article untreated with a light-resisting agent (24%; Sample 1), the addition of one or more of the claimed light-resisting agents to polybenzazole articles provides a great improvement in strength retention (%) and, therefore, light resistance.

In contrast, the polybenzazole articles containing Rhodamine B, Acid Fuchin, sodium salt, 1-naphthol, or 2-naphthol as a light-resisting agent (Samples 2-5) had a strength retention of only 23-28%. Comparison of the strength retention (23-28%) with the strength retention of the polybenzazole article not treated with a light-resisting agent (24%; Sample 1) clearly indicates that the addition of the dyes disclosed by So et al. as light-resisting agents to polybenzazole articles did *not* result in significantly higher strength retention (%). In particular, a polybenzazole article containing 1-naphthol actually showed lower strength retention (23%; Sample 4) than did the polybenzazole article not treated with a light-resisting agent (24%; Sample 1). Therefore, the dyes described in So et al. are not particularly useful as light-resisting agents of polybenzazole articles. In direct comparison, the inventive polybenzazole articles unexpectedly had a much higher strength retention than the polybenzazole articles made with the dyes disclosed by So et al. (34-55% vs. 23-28%), *even though the dyes disclosed by So et al. absorb light with a wavelength of 300-600 nm.*

From the foregoing, it is clear that the present invention has surprising and unexpected results (such as dramatically superior strength retention (i.e., light resistance)) not foreseen from the disclosure of So et al. It also is evident that So et al. does not teach the specific light-resisting agents of the pending claims, nor does So et al. teach structural equivalents (as previously admitted by the Office). Thus, So et al. does not provide any

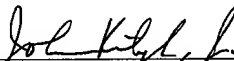
In re Appln. of Kodama et al.  
Application No. 09/502,834

teaching or suggestion that explicitly or implicitly would lead one of ordinary skill in the art to arrive at the present invention. In the absence of such a teaching or suggestion, it cannot be properly said that the present invention is obvious in view of So et al. Applicants respectfully request that the obviousness rejection be withdrawn.

*Conclusion*

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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